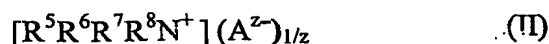


## WHAT IS CLAIMED IS:

1. A cellulose ether having from 4,000 to 10,000 anhydroglucose repeat units and being substituted with

(a) on the average from 0.0003 to 0.08 moles, per mole of anhydroglucose unit, of a substituent comprising an alkyl or arylalkyl group having from 8 to 24 carbon atoms and

(b) a substituent having the formula II



wherein

$R^5$ ,  $R^6$  and  $R^7$  each independently are  $-CH_3$  or  $-C_2H_5$ ,

$R^8$  is  $-CH_2-CHOH-CH_2-$  or  $-CH_2CH_2-$

$A^{z-}$  is an anion, and

$z$  is 1, 2 or 3.

2. The cellulose ether of claim 1 being a hydroxyethyl cellulose.

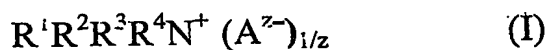
3. The cellulose ether of claim 2 comprising on the average from 1.0 to 3.0 moles of hydroxyethyl groups, per mole of anhydroglucose unit.

4. The cellulose ether of any one of claims 1 to 3 comprising on the average from 0.0005 to 0.07 moles of the substituent (a), per mole of anhydroglucose unit.

5. The cellulose ether of any one of claims 1 to 4 comprising on the average from 0.1 to 0.6 moles of the substituent (b), per mole of anhydroglucose unit.

6. The cellulose ether of any one of claims 1 to 5 having a viscosity of from 1,500 to 350,000 mPa's, measured as a 2 weight percent aqueous solution at 25 °C.

7. The cellulose ether of any one of claims 1 to 6 wherein the substituent (a) has the formula I



wherein

$R^1$  and  $R^2$  each independently are  $-\text{CH}_3$  or  $-\text{C}_2\text{H}_5$ .

$R^3$  is  $-\text{CH}_2\text{-CHOH-CH}_2\text{-}$  or  $-\text{CH}_2\text{CH}_2\text{-}$

$R^4$  is an alkyl or arylalkyl group having from 8 to 24 carbon atoms, and

$\text{A}^{z-}$  is an anion, and

5 z is 1, 2 or 3.

8. The cellulose ether of any one of claims 1 to 6 wherein the substituent (a) is derived from a glycidyl ether, an alpha-olefin epoxide, an alkyl halide or a mixture thereof comprising an alkyl or arylalkyl group having from 8 to 24 carbon atoms.

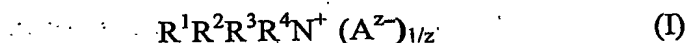
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9. The cellulose ether of any one of claims 1 to 8 wherein the substituent (a) comprises an alkyl or arylalkyl group having from 10 to 24 carbon atoms.

10. The cellulose ether of claim 9 wherein the substituent (a) comprises  
15 a dodecyl group.

11. The cellulose ether of any one of claim 1 to 10 having from 6,000 to 8,000 anhydroglucose repeat units, comprising on the average from 1.5 to 2.5 moles of hydroxyethyl groups, per mole of anhydroglucose unit, and being substituted with

20 (a) on the average from 0.0005 to 0.07 moles, per mole of anhydroglucose unit, of a substituent having the formula I

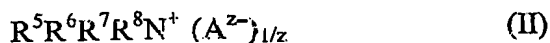


wherein

$\text{R}^1$  and  $\text{R}^2$  are  $-\text{CH}_3$ ,  $\text{R}^3$  is  $-\text{CH}_2\text{-CHOH-CH}_2\text{-}$ ,  $\text{R}^4$  is a dodecyl group,  $\text{A}^{z-}$  is a halide ion and

25 z is 1, and

(b) on the average from 0.15 to 0.35 moles, per mole of anhydroglucose unit, of a substituent having the formula II

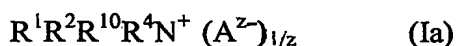


wherein  $\text{R}^5$ ,  $\text{R}^6$  and  $\text{R}^7$  are  $-\text{CH}_3$ ,  $\text{R}^8$  is  $-\text{CH}_2\text{-CHOH-CH}_2\text{-}$ ,  $\text{A}^{z-}$  is a halide ion and z is 1.

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12. A process for producing the cellulose ether of any one of claims 1 to 11 comprising the step of reacting a cellulose ether having from 4,000 to 10,000 anhydroglucose repeat units with

(a) a compound comprising an alkyl or arylalkyl group having from 8 to 24 carbon atoms and being selected from the group consisting of glycidyl ethers, alpha-olefin epoxides, alkyl halides, compounds of formula Ia and mixtures thereof



wherein

$R^1$  and  $R^2$  each independently are  $-CH_3$  or  $-C_2H_5$ ,

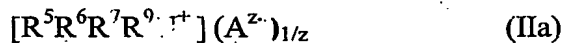
$R^4$  is an alkyl or arylalkyl group having from 8 to 24 carbon atoms,

$R^{10}$  is  $\begin{array}{c} \text{O} \\ \diagup \quad \diagdown \\ \text{CH}_2-\text{CH}-\text{CH}_2- \end{array}$ ,  $\begin{array}{c} \text{X} \quad \text{OH} \\ | \quad | \\ \text{CH}_2-\text{CH}-\text{CH}_2- \end{array}$  or  $\text{X}-\text{CH}_2\text{CH}_2-$ ,

$A^{z-}$  is an anion, and

$z$  is 1, 2 or 3; and

(b) a compound of formula IIa



wherein

$R^5$ ,  $R^6$  and  $R^7$  each independently are  $-CH_3$  or  $-C_2H_5$ ,

$R^9$  is  $\begin{array}{c} \text{O} \\ \diagup \quad \diagdown \\ \text{CH}_2-\text{CH}-\text{CH}_2- \end{array}$ ,  $\begin{array}{c} \text{X} \quad \text{OH} \\ | \quad | \\ \text{CH}_2-\text{CH}-\text{CH}_2- \end{array}$  or  $\text{X}-\text{CH}_2\text{CH}_2-$ .

$A^{z-}$  is an anion, and

$z$  is 1, 2 or 3.

13. A personal care composition comprising the cellulose ether of any one of claims 1 to 11.

14. A hair or skin care composition comprising the cellulose ether of any one of claims 1 to 11.